THE CLAIMS

1. Cancelled.

2. Cancelled.

3. (Previously Presented) A rotary electric motor as recited in claim 11, wherein each of said power modules comprises:

drive circuitry; and

electronic switches connected to a power source and the respective electromagnet, the switches being responsive to drive circuitry for directing current pulses from the power source to a winding of the electromagnet.

4. (Original) A rotary electric motor as recited in claim 3, wherein each of said power modules further comprises a circuit board having mounted thereon respective drive circuitry and respective switches.

5. (Original) A rotary electric motor as recited in claim 4, further comprising a sequence controller connected to the drive circuitry of each module for applying thereto timing signals.

6. (Original) A rotary electric motor as recited in claim 5, further comprising at least one rotor position sensor for providing output signals indicative of rotor position and wherein said sequence controller is responsive to said output signals.

7. (Previously Presented) A rotary electric motor as recited in claim 3, wherein said power source comprises a plurality of batteries contained within the stator, each of said batteries supplying power to only one of said modules.

8. (Previously Presented) A rotary electric motor as recited in claim 3, wherein each of said power modules further comprises:

a rotor position sensor for providing output signals indicative of rotor position relating to the respective power module; and

a sequence controller connected to the drive circuitry and to said rotor position sensor for providing timing signals for controlling the operation of said switches.

9. (Original) A rotary electric motor as recited in claim 8, wherein direction of current flow and duration of each current pulse is determined by selected activation of the switches by the drive circuitry.

10. (Currently Amended) A rotary electric motor as recited in claim [[1]] 11, wherein the motor is enclosed within a shielded housing thereby to avoid external electromagnetic interference.

11. (Currently Amended) A rotary electric motor [as recited in claim 1,] comprising:

a permanent magnet rotor having a plurality of permanent magnets disposed in an annular ring configuration;

a stator comprising a plurality of separate, ferromagnetically isolated electromagnets in an annular ring configuration, windings of the electromagnets selectively energized to form magnetic poles of alternating polarity along a radial air gap that separates the stator from the rotor; and

a plurality of separate power modules, each of said modules corresponding to a respective stator electromagnet for providing energization current thereto; and

wherein the plurality of separate power modules are contained within the stator radially inward of the stator electromagnets.

12. Cancelled.

13. (Previously Presented) A rotary electric motor comprising:

a permanent magnet rotor having a plurality of permanent magnets disposed in an annular ring configuration; and

a stator coaxial with the rotor and separated therefrom by a radial air gap;

wherein the stator comprises a plurality of independent stator units, each of the units comprising a ferromagnetically isolated core having a winding formed thereon and a separate power supply therefor.

14. Cancelled.

15. (Previously Presented) A rotary electric motor comprising:

a permanent magnet rotor having a plurality of permanent magnets disposed in an annular ring configuration; and

a stator coaxial with the rotor and separated therefrom by a radial air gap;

wherein the stator comprises a plurality of independent stator units, each of the units comprising a ferromagnetically isolated core having a winding formed thereon, circuitry for controlling energization of the winding, a rotor position sensor, and a separate power supply therefor.

16. (Original) A rotary electric motor as recited in claim 15, wherein the rotor surrounds the stator.

17. (Currently Amended) A rotary electric motor as recited in claim 15, wherein said circuitry comprises:

electronic switches connected to the power source and the respective electromagnet winding; and

a switch driver responsive to a controller for applying driving pulses to the switches to apply current pulses from the power ~~source~~ supply to a winding of the electromagnet.

18. (Original) A rotary electric motor as recited in claim 16, wherein each of the units is a structurally self-contained component.

19. (Withdrawn) A stator for a rotary electric motor having an outer permanent magnet rotor, said stator having an annular ring construction encompassed within the rotor and separated therefrom by a radial air gap, and comprising:

a plurality of ferromagnetically isolated core segments having respective coils wound thereon to form stator windings, said core segments having an outer radial periphery at the air gap and an inner radial periphery defining a volume within which substantially no flux traverses; and

a non-ferromagnetic support structure for containment of said core segments in ferromagnetic isolation from each other and for supporting a plurality of separate power modules, each of said modules corresponding to a respective stator electromagnet for providing winding energization current thereto.

20. (Withdrawn) A stator as recited in claim 19, wherein said non-ferromagnetic support structure comprises:

a generally circumferential sleeve portion; and

a plurality of spine members each integrally formed at a first end with said sleeve portion and adapted to be fixed to a stationary shaft at a second end, whereby said sleeve is positioned at a fixed radial distance from said shaft and coaxial therewith.

21. (Withdrawn) A stator as recited in claim 20, wherein said sleeve portion comprises a plurality of generally parallel ribs on an outer surface thereof to form slots; and each of said core segments comprises:

a pair of salient poles; and

a linking portion joining the poles, said linking portion configured to mate with one of said slots;

whereby said core segments are slideably engageable with and slideably removable from said slots.

22. (Withdrawn) A stator as recited in claim 21, wherein said sleeve portion comprises a plurality of generally parallel ribs on an inner surface thereof to form slots for slideably receiving said power modules.

23. (Withdrawn) A stator as recited in claim 22, wherein the outer surface ribs are generally in alignment with the inner surface ribs and the sleeve portion between an adjacent set of ribs comprises a cutout for permitting electrical connection between a power module and a stator winding.

24. (New) A rotary electric motor as recited in claim 11, wherein

said ferromagnetically isolated electromagnets comprise a plurality of core segments having respective coils wound thereon to form stator windings, said core segments having an outer radial periphery at the air gap and an inner radial periphery defining a volume within which substantially no flux traverses; and

a non-ferromagnetic support structure for containment of said core segments in ferromagnetic isolation from each other and for supporting said plurality of separate power

modules, each of said modules corresponding to a respective stator electromagnet for providing winding energization current thereto.

25. (New) A stator as recited in claim 24, wherein said non-ferromagnetic support structure comprises:

a generally circumferential sleeve portion; and

a plurality of spine members each integrally formed at a first end with said sleeve portion and adapted to be fixed to a stationary shaft at a second end, whereby said sleeve is positioned at a fixed radial distance from said shaft and coaxial therewith.

26. (New) A stator as recited in claim 25, wherein said sleeve portion comprises a plurality of generally parallel ribs on an outer surface thereof to form slots; and each of said core segments comprises:

a pair of salient poles; and

a linking portion joining the poles, said linking portion configured to mate with one of said slots;

whereby said core segments are slideably engageable with and slideably removable from said slots.

27. (New) A stator as recited in claim 26, wherein said sleeve portion comprises a plurality of generally parallel ribs on an inner surface thereof to form slots for slideably receiving said power modules.

28. (New) A stator as recited in claim 27, wherein the outer surface ribs are generally in alignment with the inner surface ribs and the sleeve portion between an adjacent set of ribs comprises a cutout for permitting electrical connection between a power module and a stator winding.

29. (New) An electric motor comprising:

a rotor member comprising a plurality of permanent magnets arranged in an annular ring configuration;

a stator member comprising a plurality of separate stator core segments arranged in an annular ring configuration, wherein a conductive winding is wound in a coil around a portion of each core segment;

wherein said stator member and said rotor member are separated from each other by an air gap; and

wherein at least one circuit board is in electrical communication with the conductive winding of at least one stator core segment, the circuit board located internal to said motor and adjacent to said stator core segment.

30. (New) An electric motor as recited in claim 29, wherein each said at least one circuit board comprises:

one or more control circuit elements; and

one or more electronic switches in electrical communication with said one or more control circuit elements.

31. (New) An electric motor as recited in claim 30, wherein each said at least one circuit board is in electrical communication with the conductive winding of only one stator core segment.

32. (New) An electric motor as recited in claim 29, further comprising a motor operation controller that is in electrical communication with said at least one circuit board.

33. (New) An electric motor as recited in claim 29, further comprising at least one rotor position sensor.

34. (New) An electric motor as recited in claim 29, further comprising at least one power source.

35. (New) An electric motor as recited in claim 34, wherein said power source comprises at least one rechargeable battery.

36. (New) An electric motor as recited in claim 34, wherein said power source is located adjacent to said stator core segments.

37. (New) An electric motor as recited in claim 34, wherein said at least one power source is located external to said motor.

38. (New) An electric motor as recited in claim 34, wherein the direction of current flow and duration of each current pulse from a power source to said conductive winding is controlled by said at least one circuit board.

39. (New) An electric motor as recited in claim 30, wherein each said circuit board further comprises a sequence controller connected to one or more electronic switches.

40. (New) An electric motor as recited in claim 39, wherein said sequence controller is electrically connected to one or more control circuit elements and a rotor position sensor.

41. (New) An electric motor as recited in claim 29, wherein each said stator core segment comprises two or more salient poles with a common conductive winding.

42. (New) An electric motor as recited in claim 29, wherein said plurality of core segments comprise an outer radial periphery at the air gap and an inner radial periphery defining a volume.

43. (New) The motor as recited in claim 29, wherein said stator core segments are secured to a support structure.

44. (New) An electric motor as recited in claim 29, wherein said stator core segments are ferromagnetically isolated from each other.

45. (New) An electric motor as recited in claim 43, wherein said support structure is formed from a non-ferromagnetic material.

46. (New) An electric motor as recited in claim 43, wherein at least one control board is secured to said support structure.

47. (New) An electric motor as recited in claim 43, wherein at least one power source is secured to said support structure.

48. (New) The motor as recited in 43, wherein said support structure comprises:

a generally circumferential sleeve portion; and

a plurality of radial members extending outwardly in a radial direction from said sleeve portion, wherein each radial member is integrally formed at a first end with said sleeve portion and not supported at a second end.

49. (New) An electric motor as recited in claim 43, wherein said support structure comprises a central aperture.

50. (New) An electric motor as recited in claim 49, wherein a shaft is located in said central aperture.

51. (New) An electric motor as recited in claim 50, wherein said support structure is secured to said shaft.

52. (New) The motor as recited in claim 29 wherein said stator core segments comprise a linking portion joining two poles.

53. (New) An electric motor as recited in claim 51, wherein said linking portion is secured to a support structure.

54. (New) An electric motor as recited in claim 30, wherein said one or more control circuit elements and said one or more electronic switches are secured to a common substrate.

55. (New) An electric motor as recited in claim 29, wherein the motor is shielded from external electromagnetic interference.

56. (New) An electric motor as recited in claim 29, wherein said at least one circuit board is electrically connected to at least one power source and the conductive winding of only one of said stator core segments.

57. (New) An electric motor as recited in claim 32, wherein said motor operation controller further is in electrical communication with a motor operation input device.

58. (New) An electric motor as recited in claim 34, wherein said at least one power source is in electrical communication with the conductive winding of only one stator core segment.

59. (New) An electric motor as recited in claim 35, wherein said at least one rechargeable battery is electrically coupled to at least one circuit board.

60. (New) The motor as recited in claim 29, wherein the rotor surrounds the stator.